



**US Army Corps  
of Engineers**  
Omaha District

# *Soil Mechanics*

## **In-House Engineering Capabilities:**

### **Airfield Pavement Design**

- Airfield and special pavement design, review and analyses
- Construction oversight for critical aspects of pavement and foundation construction
- Specify and evaluate asphalt and concrete mix designs
- Inspection of airfield pavement distress conditions
- Specify mass concrete placement and removal
- Aggregate analysis for asphalt and concrete pavement

### **Foundation Design**

- Building, pavement and bridge foundation geotechnical analyses
- Geotechnical site investigations and analyses for building foundations, pavements, utilities, hydraulic structures, bridges and special structural features
- Design, specify and oversee subgrade soil modification and improvement methods
- Conduct special studies to solve unique foundation, subgrade and drainage problems
- Foundation design on expansive soils

### **Geotechnical Design of Flood Control Projects**

- Earth dam and levee design and rehabilitation
- Slope stability investigation and analysis
- Slope protection design
- Borrow material study and analysis
- Channel improvement projects
- Bank stabilization
- Environmental restoration and enhancement (wetland creation and mitigation, deep water habitat)

### **Materials Engineering**

- Specify special use engineering materials (paints, coatings, geosynthetics)
- Natural materials investigations (cement, rip-rap, aggregates)
- Specify and evaluate specialized geosynthetic lab testing
- Investigate and analyze concrete materials

### **Dam Safety/Bridge Safety**

- Embankment and foundation evaluation
- Monitoring system design, inspections, and structural evaluation
- Underwater inspections and scour evaluation
- Emergency action plan development



### **HTRW Support Services**

- Landfill cover and liner system design & review
- Landfill gas extraction systems design & review
- UST Removals
- Contaminated material excavation and disposal or treatment
- Contaminated material stabilization/solidification
- Barrier wall design
- Collection trenches
- Bioremediation
- Wetlands design & phytoremediation